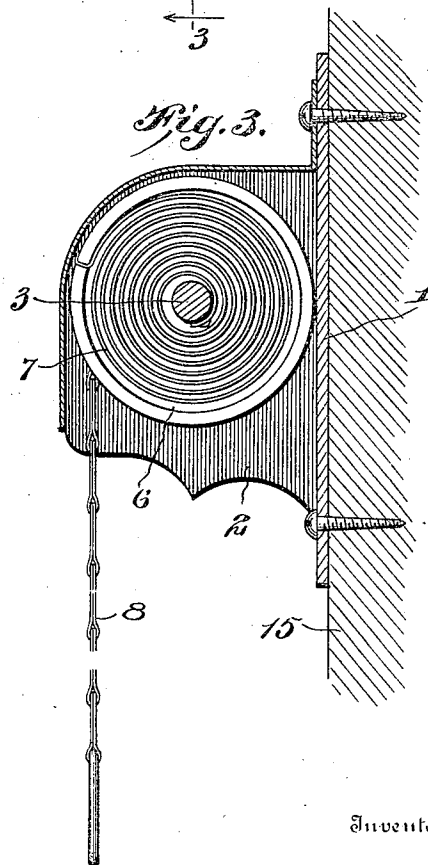
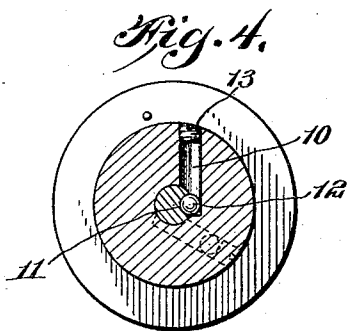
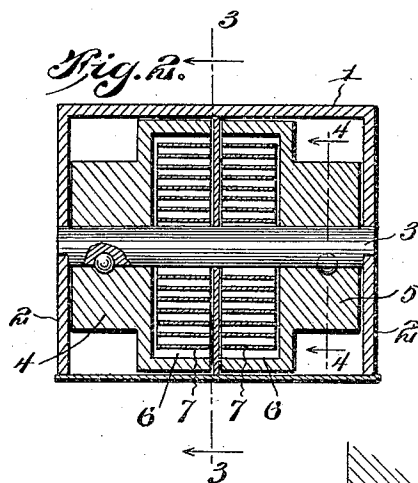
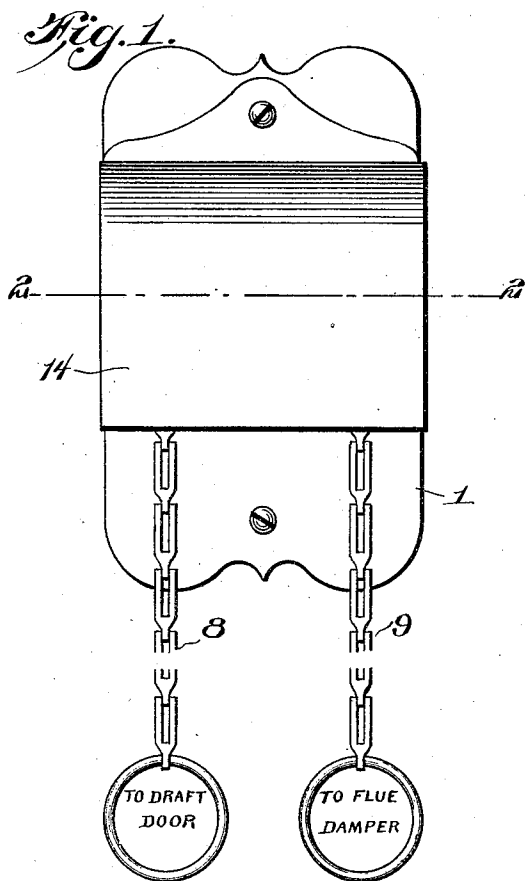


H. D. FRYMIRE, JR.
DRAFT REGULATOR.
APPLICATION FILED SEPT. 18, 1908.

936,111.

Patented Oct. 5, 1909.



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HARDIN D. FRYMIRE, JR., OF GALESBURG, ILLINOIS.

DRAFT-REGULATOR.

936,111.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed September 18, 1908. Serial No. 453,583.

To all whom it may concern:

Be it known that I, HARDIN D. FRYMIRE, Jr., a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented new and useful Improvements in Draft-Regulators, of which the following is a specification.

This invention relates to draft regulators for stoves, furnaces and the like, and it has for its object to provide a device of this class of simple and thoroughly efficient construction whereby the draft door and the flue damper of a stove or furnace may be manipulated from various points at a distance from such stove or furnace, thus controlling the draft of the same and regulating the degree of heat.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing, Figure 1 is a front view of a casing containing the improved draft regulator. Fig. 2 is a horizontal transverse sectional view taken on the plane indicated by the line 2—2 in Fig. 1. Fig. 3 is a vertical sectional view taken on the plane indicated by the line 3—3 in Fig. 2. Fig. 4 is a sectional detail view taken on the plane indicated by the line 4—4 in Fig. 2.

Corresponding parts in the several figures are denoted by like characters of reference.

The casing of the improved device comprises a base plate 1 having side flanges or cheeks 2—2 supporting a shaft 3, the non-circular ends of which are fitted in corresponding apertures in the cheeks where the shaft is thus supported against rotation. Mounted rotatably upon the shaft 3 are pulleys 4—5, each of which is provided with a recess 6 wherein is disposed a spiral spring 7,

the ends of which are attached respectively to the pulley casing and to the shaft 3, so that, by rotating the pulley upon the shaft, the spring may be placed under tension. Suitably attached to and connected with each 60 of the pulleys 4—5 is a chain 8—9, said chains being partly wound upon the pulleys in such a manner that by pulling the free end of the chain to unwind it from the pulley, the latter will be rotated, and the spring 65 placed under tension, while by relaxing the pulley upon the free end of the chain, the tension of the spring will be exerted to so rotate the pulley as to wind the chain thereupon. Each of the pulleys is provided with 70 a recess or bore 10 disposed tangentially and terminating adjacent to the shaft 3, which latter is provided adjacent to the inner end of each recess 10 with a socket 11 adapted to accommodate a ball or spherical member 12 75 disposed in the bore or recess. When the ball 12 is seated in the socket 11, it will project from the shaft, as will be clearly seen in Fig. 4, and will lie in the path of the inner end of the recess or bore 10, thus obstructing 80 the rotation of the pulley under the impulse of the spring connected therewith; by pulling the chain connected with the pulley in such a manner as to rotate the latter to wind the spring more tightly, the bore or 85 recess 10 will be tilted to an inclined position, substantially as shown in dotted lines in Fig. 4 thus permitting the ball to roll toward the outer end of the bore or recess 10, which is provided with a stop plug 13; then, 90 by letting go of the chain, the pulley will be rotated rapidly under the impulse of the spring, and the ball, by the centrifugal action thus introduced, will remain at the outer end of the recess or bore 10 until the 95 limit of rotation of the pulley has been reached. The ball 12 thus constitutes a centrifugal stop device for checking the spring actuated pulley in a predetermined position. The spring actuated pulleys are in practice 100 covered from view by means of a shield or casing 14 suitably secured upon the base-plate.

A washer or partition member is preferably interposed between the pulleys upon 105 the shaft 3, as will be seen in Fig. 2 of the drawings, thus separating the springs disposed in the recesses 6, which latter are preferably formed in the inner, adjacent ends of the pulleys. 110

The improved device is in practice mounted for operation in the upper story of the building where the stove or furnace, the draft of which is to be regulated, is located in the basement or lower story. The free ends of the chains 8 and 9 wound upon the pulleys 4 and 5 are to be connected respectively with the draft door and the flue damper of such stove or furnace, said chains being suitably guided in such a manner as to be conveniently accessible at various intermediate points from which it may be desired to control the draft. Normally, the tension of the spring will be exerted to keep the draft door and the flue damper open, said door and damper being operable to be closed by gravity. By simply manipulating the chains, it will be seen that the pulleys may be partly rotated to effect any desired adjustment of the draft door and the damper, the same being sustained in adjusted position by means of the check devices connected with the pulleys as herein described.

This improved device is simple in construction, easily operated and thoroughly efficient for the purposes for which it is provided.

Having thus fully described the invention, what I claim as new is:—

In a device of the class described, the combination of a frame or casing, a non-rotatable shaft supported in said frame or casing and having sockets formed thereon at opposite sides of the center thereof, pulleys mounted upon said shaft and inclosing said sockets and provided with recesses in their opposing inner sides and having tangential bores, plugs closing the outer ends of said bores, spiral springs disposed in said recesses and having their ends attached respectively to the pulleys and to the shaft, a partition member upon the shaft between the open ends of the recessed inner sides thereof, spherical members movably disposed in said tangential bores to seat within said sockets in the shafts in the pulleys, and flexible operating members wound upon the pulleys and projecting from said frame or casing.

In testimony whereof, I affix my signature in presence of two witnesses.

HARDIN D. FRYMIRE, JR.

Witnesses:

CHAS. M. COMEGYS,
CHAS. E. LUTZ.